



CSD 4050 – Introduction to Neurogenic Cognitive-Communicative Disorders
Spring 2022 (3 credit hours)
10:00-11:15 TR
Swaid 214
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Office: Swaid 104
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Office hours vary greatly; please email for an appointment time

Prerequisites:

BIOL 1200

Course Information:

A survey of the normal structure and function of the nervous system in human communication and disorders that occur due to neurological dysfunction.

This course is designed to provide an overview of the normal neuroanatomy and neurophysiology of human communication (speech, language, and hearing). Neurological bases for all aspects of communication (speech, language, hearing, vision, movement, and tactile sensation) and swallowing are addressed. This introductory course is expected to serve as a basis for understanding the normal and pathological processes that affect human communication and to provide a foundation for advanced graduate level coursework in speech, language, swallowing, and cognitive functions.

This course utilizes the Canvas platform extensively. Please make sure your notifications are turned on so that you do not miss any announcements. Any information I send collectively to the class will be sent through Announcements in Canvas. I am available by email. I will try to respond as quickly as possible; however, please do not expect me to answer work-related emails during evenings, weekends or over holiday breaks.

Required course materials:

Rouse, M. H. (2020). *Neuroanatomy for speech-language pathology and audiology; 2nd Edition*. Burlington, MA: Jones & Bartlett Learning.

Ferrand, C.T. (2021). *The Speech and hearing anatomy course companion workbook*. Loveland, CO: CTF Publications.

Recommended course materials:

McFarland, C. H. (2015). *Netter's atlas of anatomy for speech, swallowing, and hearing; 2nd Edition*. St. Louis, MO: Mosby Elsevier. (ISBN: 978-0-323-23982-0)

Helpful resource:

University of Washington. (2005). The digital anatomist. Retrieved from <http://www9.biostr.washington.edu/da.html>

Textbook Rationale

It is often difficult to locate and select textbooks because many are either poorly aligned with the subject matter or become cost prohibitive. The choice of textbooks is not made without careful consideration of both the relevance of the text to the course objectives and the cost of the text to the student. This particular text was selected because it is readable, relatable, relevant, and instructive, providing students with a fundamental understanding of neuroanatomy and neurogenic disorders at an affordable cost.

Learning Objectives

Relationship to University Learning Outcomes (ULOs): This course supports mastery of the following ULOs:

ULO 4 (Critical Thinking): Students will gather and evaluate available information and make a reasoned argument based on that data.

ULO 9 (Personal Wellness): Students will demonstrate knowledge and skills for nurturing physical and emotional health.

Course competencies and outcomes

Upon completion of the course, students will be able to:

1. Describe the gross anatomy of the central and peripheral nervous systems.
2. Explain the neuromuscular control for normal speech production.
3. Examine the central nervous system as it relates to normal language production and comprehension.
4. Discuss the central and peripheral nervous systems as they relate to hearing, balance, vision, taste and swallowing.
5. Discuss and demonstrate understanding of communication, hearing, cognitive and swallowing disorders associated with acquired neurological damage.
6. Utilize directional terms appropriately

Module Learning Objectives (MLOs)

Upon completion of each module, students should be able to:

Module 1: Intro to Neurology:

Define neurological terms, explain why SLPs need neurological training, list various categories of neurological disorders and provide examples, explain the spectrum of belief as to how the brain works, list and define structural and functional imaging techniques, list and define anatomical orientation terms, list and briefly describe the three approaches to organizing the nervous system, define important neuroembryonic terms, list and describe the structural development of the nervous system

Module 2: General Neuroanatomy:

List and briefly describe each nervous system cell, accurately label the parts of a neuron and synapse, list and describe steps in neuron function, list and describe select nervous system disorders involving nervous system cells, label a diagram of the brainstem, list all cranial nerves, list important cranial nerves for speech, swallowing, voice and hearing, describe the form and function of the cerebellum, list four parts of the diencephalon, describe function of the basal ganglia, list the names of the four brain ventricles, describe CSF composition and function, disorders associated with the diencephalon, basal ganglia, and brain ventricles, list four structures that nourish and protect the brain, identify important features of the cerebral hemispheres, describe hemispheric specialization, list causes of damage to hemispheres, describe brain plasticity, state limitations of Brodmann map, list important areas in each lobe of brain and describe one function of each

Module 3: Neuroanatomy as applied to communication disorders

Define terms of consciousness, describe primary neurological structures involved in consciousness, describe five disorders of consciousness, describe brain-mind theories, describe peripheral auditory system and central auditory system of hearing, main central auditory structures, explain auditory disorders, outline major components of speech system, connect different places of damage in the motor speech system to dysarthria, identify places of damage associated with AOS, describe the importance of sensory system to speech, define language, define components of language, describe several language disorders, describe each stage of the normal swallow, identify cranial nerves in

each step of normal swallow, describe the main components of the central swallowing system, list neurological disorders that cause dysphagia, define cognitive terms, describe the neural basis of attention, memory, and executive functions, describe select disorders of attention, memory, and executive functions, define emotion, three theories of emotion, describe neural structures, define a neurological exam, list and define signs of neurological injury

Course Assignment Details

Article Reviews – 25 points each

All students will complete **two** article reviews from current peer-reviewed journals. It is preferred that your article was written within the last 5 years. Your articles must cover research in the area of neuroanatomy and/or neurogenic communication disorders. Each review will include a short summary and your reflection. You will use Times New Roman font, 12 point, double spaced with appropriate citations in **APA format**. **Please double check your APA citation for your article. Students often lose points here. Your review must be a full 2 pages in length. Grammatically correct writing is expected, including punctuation, spelling, and subject-verb agreement. Please see Canvas for the grading rubric for these reviews.

Construct a model of the Circle of Willis using any materials you choose- 50 points

I encourage you to be creative! The model is to be three dimensional, not designed on a computer. The model must include the following parts, clearly labeled, using whatever materials you choose:

1. anterior communicating artery
2. internal carotid arteries
3. posterior communicating artery
4. posterior cerebral arteries
5. basilar artery
6. vertebral arteries
7. middle cerebral arteries
8. anterior cerebral arteries

Media projects- 25 points each

You will choose a movie to watch **and** a book to read that relates to a neurogenic disorder. You will write a two-page summary of each, submitted to Canvas. In your summary you will include how the disorder was portrayed, as well as your personal review of the book/movie. Do you feel it was an accurate portrayal? How did they handle the emotional aspects of this disorder? A list is provided on Canvas with examples of choices, but you are not limited to this list. If you are unsure if your book/movie is applicable, please see me for prior approval.

Cranial nerve presentation- 25 points

Each of you will choose a cranial nerve, drawn from a hat. You will present your nerve to the class identifying it by name and function, as well as sensory, motor, or both. You will need to include aids to help your classmates remember the name and function of your nerve. Be creative- this can be a song, motions, using visual aids, anything that will help the class remember your nerve and its purpose. This is meant to be fun and helpful; it is not a formal presentation.

Workbook assignments: Course requirement

Although not for a grade, you are expected to complete assigned worksheets in your Speech and Hearing Anatomy course companion workbook(due dates and details in Canvas). Failure to complete these worksheets will result in failing the course.

Grading - Assessment of the knowledge, skills, and proficiency of each student for the purpose of assigning a letter grade at the completion of this course will be based on the following:

A	100-90%
B	89-80%
C	79-70%
D	69-60%
F	59% and below

Article Summaries – 15% of course grade
Course Projects – 15% of course grade
Unit Exams – 50% of course grade
Final Exam – 20% of course grade
Course companion worksheets- required for course credit

Grades are not gifts; they are earned. The instructor does not *GIVE* grades; rather the student *EARN*S the grade through organization, diligence, planning, and execution. Students are expected to assume individual responsibility for the quality, presentation and timeliness of their own work. Late work is not accepted and earns a grade of zero. Extra credit opportunities are generally not available. I do not provide any opportunities to raise your grade at the end of the semester and don't round overall course grades. Take home message: Do your best work on time.

Participation/Attendance

Full participation in each class meeting is required for the success of the entire class. True exchange of academic ideas can only be achieved with everyone actively participating. Attendance at each in person or synchronous online class meeting is expected. If online, please be prepared to share your screen and verbally participate in discussions. Come to class having read the material. This is an upper level course and its mastery involves some complex concepts and large amounts of material that is probably new to you. I truly want you to be successful in mastering this course material but cannot answer questions that you don't ask. In my classroom, there are no "dumb" questions. I will always respect your willingness to seek a greater depth of knowledge and promise to never knowingly make a student feel "silly" for asking a question in class – it's a safe place to pursue knowledge. Please make sure that you maintain that sense of safety by honoring your classmates' pursuit of knowledge.

Should you need to miss class due to illness or quarantine, please communicate with me prior to class time via email. Attendance will be taken at each class meeting. If you need to miss a class period, please inform me via email prior to the class period. Any student who misses more than 2 class meetings will have the final grade lowered by one letter for each subsequent absence.

Course Policies:

- Please use my university email (above) rather than Canvas email. I do not regularly check Canvas mail and information there is easily missed. Comments made in Canvas are also easily missed.
- Students are expected to read assigned material prior to class and be prepared to participate in class discussions. Students who miss class are responsible for content.
- Please do not text during class. If there is an emergency, you may leave the classroom to take care of the matter.
- Lectures, slides and test questions are considered to be intellectual property and some course components are protected by an additional copyright. For these reasons, students may not record any portions of a class or photograph slides without the express permission of the course instructor.
- Written work must be correct in mechanics (e.g. grammar, punctuation, etc.). Points will be deducted for inadequate work.
- It is expected that students will adhere to assignment due dates. Late work will **not be accepted** and a zero will be given for the assignment. However, I ask that you communicate with me if you are ill or have an emergency.
- Submitting work taken directly from another source will be considered plagiarism and no credit will be given on the assignment. Cheating in all its forms is inconsistent with the Christian faith and practice and will result in sanctions up to and including dismissal from the class with a failing grade. Obtaining information from students taking this course during a previous semester or giving information to students in subsequent semesters is considered Academic Dishonesty. Please see the [University Catalog](#) for information related to this topic. You might be surprised at what's considered cheating.

- If you are unable to take an examination due to illness, an alternate form of the exam may be substituted for the missed exam. In order to be allowed the opportunity to make up the exam you must contact me prior to the scheduled exam.
- Students are encouraged to review each exam with the course instructor. Students are expected to take ownership and responsibility of their course grades.

Academic Integrity

Honesty and integrity are characteristics that should describe each one of us as servants of Jesus Christ. As your instructor, I pledge that I will strive for honesty and integrity in how I handle the content of this course and in how I interact with each of you. I ask that you join me in pledging to do the same. Academic dishonesty will result in penalties up to and including dismissal from the class with a failing grade and will be reported to the Associate Provost. All instances of dishonesty will be handled according to the procedures delineated in the Harding University catalog.

Students with Disabilities

It is the policy for Harding University to accommodate students with disabilities, pursuant to federal and state law. Therefore, any student with a *documented disability* condition (e.g. physical, learning, or psychological) who needs to arrange reasonable accommodations must contact the instructor and the Office of Disability Services and Educational Access at the *beginning* of each semester. If the diagnosis of the disability occurs during the academic year, the student must self-identify with the Office of Disability Services and Educational Access *as soon as possible* in order to get academic accommodations in place for the remainder of the semester. The Office of Disability Services and Educational Access is located in Room 226 in the Student Center, telephone, (501) 279-4019.

The Office of Disability Services and Educational Access is located on the Searcy campus. If a student needs the resources of this office, the student must self-identify with the instructor of the course and submit documentation in person, by fax (501-279-5702) or mail (915 E. Market Ave., Box 12268, Searcy, AR 72149-5615) to the Office of Disability Services and Educational Access on the Searcy campus. The necessary forms are available at the [Student Life Disabilities Services Website](#). Upon receiving the appropriate documentation approved by ADA guidelines, academic accommodations may be set up by the instructor via conference with the Director of Disability Services and Educational Access. If you have questions, please contact the Office of Disability Services and Educational Access at DisabilityServices@harding.edu or (501) 279-4019.

I am happy to make any needed accommodations for you, but please speak with me well in advance of any that are expected (exams, assignments) so that we can develop a mutually acceptable and most beneficial/effective plan for implementation of those accommodations.

Time Management Expectations

For every course credit hour, the typical student should expect to spend at least three clock hours per week of concentrated attention on course-related work, including but not limited to time attending class, as well as out-of-class time spent reading, problem solving, reviewing, organizing notes, preparing for upcoming quizzes/exams, developing and completing projects, and other activities that enhance learning. Thus, for a three-hour course, a typical student should expect to spend **135 hours dedicated to mastery of the material in this class.**

Dress Code

All members of the Harding community are expected to maintain standards of modesty and decency in dress appropriate to the Christian lifestyle and consistent with professional employment expectations. For these reasons, students are expected to adhere to an established dress code whether meeting on ground or online.

CSD Vision Statement:

Our vision is to provide an excellent Christian education through strong, positive connections with graduates who use their voices in their communities.

CSD Mission Statement:

Our program excels in developing highly-skilled and professional graduates who are ready to impact their local and global communities by improving the lives of those they serve. Christian faculty and staff are invested in providing an unparalleled experience utilizing a comprehensive curriculum, contemporary technology, and state-of-the-art facilities to engage students in reaching their full potential, both educationally and spiritually. As a result, our students exemplify ethical leadership, critical thinking, and interprofessional collaboration to support top of the license practice.

Technology Details

Learning Management System

Canvas is the Learning Management System (LMS) used in this course. Canvas sends an email confirmation to your Harding University email once an assignment is graded or an announcement is posted. Canvas can be accessed using [Harding's Canvas Login](#). For additional information relating to Canvas, including tutorials, and supported web browsers, please visit [Harding's IST Canvas page](#) or [Instructure Canvas Help Center](#). Click here for [Instructure Canvas Accessibility](#) and [Privacy Policies](#).

Technical Support

For technical assistance from 8:00 a.m. - 5:00 p.m., M-F, please contact the e-Learning Help Desk at

Phone: 501-279-5201

Email: elearning@harding.edu

Web: [E-Learning Web Address](#)

For Canvas assistance, search [Canvas Guides](#).

University Policies and Procedures

Assessment Statement

Harding University, since its charter in 1924, has been strongly committed to providing the best resources and environment for the teaching-learning process. The board, administration, faculty, and staff are wholeheartedly committed to full compliance with all Criteria of Accreditation of the Higher Learning Commission as well as standards of many discipline-specific specialty accrediting agencies. The university values continuous, rigorous assessment at every level for its potential to improve student learning and achievement and for its centrality in fulfilling the stated mission of Harding. Thus, a comprehensive assessment program has been developed that includes both the academic units and the administrative and educational support units. Course-specific student learning outcomes contribute to student achievement of program-specific learning outcomes that support student achievement of holistic university learning outcomes. All academic units design annual assessment plans centered on measuring student achievement of program learning outcomes used to sequentially improve teaching and learning processes. Additionally, a holistic assessment of student achievement of university learning outcomes is coordinated by the university Director of Assessment used to spur continuous improvement of teaching and learning.

Code of Academic Conduct

Students of Harding University are expected to be honorable and to observe standards of academic conduct appropriate to a community of Christian scholars. Harding University expects from its students a higher standard of conduct than the minimum required to avoid discipline. Harding expects its students to conduct themselves as responsible citizens in a Christian community. Enrollment at the University is viewed as a privilege that brings the attendant responsibilities and accountability. In order to encourage Christian living and growth, the University administers a student Code of Conduct. This code is provided to every student upon enrollment.

Upon registration to the University, students acknowledge and agree to abide by this code. Harding University reserves the right to refuse admission or dismiss students whose lifestyle is not consistent with the Christian principles for which Harding stands; and when the general welfare of the institution requires such action. Students suspended for disciplinary reasons during a semester may receive a grade of "F" in all courses for that semester. Please visit the appropriate Harding University Student Handbook ([undergraduate](#)) for further details.

Referencing Information

As the accepted writing style of business, psychology, education, and social science programs across the globe, the American Psychological Association publication format (otherwise known as APA Style) is the required writing style for this course. Learning to conduct scholarly research is a natural part of academic work, and will help you succeed at Harding University. Conducting scholarly, professional and industry research is required for this course. If a source is questionable, e.g., Wikipedia, other wikis, ask.com, answers.yahoo.com, etc., please contact me for clarity and permission before using a source that falls outside the scope of traditional academic standards. It is also important that you show how these references assisted your academic work; so make sure you reference your sources in every assignment you submit, no matter how mundane the assignment may be. Failure to properly and completely cite your sources may constitute plagiarism or cheating, as delineated in the Academic Code of Conduct. Bottom line, remember these two simple rules: 1) give credit where credit is due, and 2) if it isn't your words, ideas or thoughts, it is someone else's and needs to be cited.

- [APA Resources](#)
- [Purdue Online Writing Lab](#)

The Harding University Writing Center is also available to provide help with planning, writing, organizing, or revising an essay as well as with using MLA, Chicago, or APA formats. You can schedule an appointment with the Writing Center at harding.mywconline.com or ask questions via email at HardingUniversityWritingCenter@gmail.com.

Turnitin

During this course, the originality of various assignments submitted by students will be checked via [Turnitin](#), an organization leading the way in both plagiarism detection and student learning. Turnitin provides institutions, faculty, and students with a variety of academic tools, including originality checks, online grading capabilities, and even peer reviewed feedback. Turnitin is integrated with the assignment settings used when preparing assignments in Canvas.

Academic Grievance Policy

If a student believes that he or she has reason to question the decision of a faculty member with regard to the final grade received in a course or the denial of academic progression, a procedure has been established to resolve the grievance. The student must initiate the written Academic Grievance Appeal within five business days after notification of the final grade in Pipeline or notification of denial of academic progression. In cases of both course grade and academic progression appeals, students are encouraged to first engage the involved faculty member in a good faith discussion (in person or via telephone or email) as the first step in resolving any concerns. If resolution is not achieved, a student may submit a written academic grievance by following the [policy set forth in the Harding University catalog](#). All students should be familiar with this policy.

Changes to Syllabus Notice

As your instructor, I reserve the right to modify and update any part of the syllabus where necessary. It is your responsibility to stay up to date with any changes communicated by me.

*Tentative Course Schedule- subject to change at instructor's discretion

Date	Topic	Reading	Activity
8/23	Course introduction, syllabus review, getting to know you	Syllabus	Syllabus review
8/25	Introduction to Neurology	Rouse, Ch. 1	
8/30	Nervous system: organization	Rouse, Ch. 2	CCW p. 256
9/01		Rouse, Ch. 2 continued	
9/06	Nervous system: development	Rouse Ch. 3	

9/08		Chapter 3 continued	Exam #1 - Chapters 1-3 in Testing Lab
9/13	Cells of nervous system	Rouse, Ch. 4	Course Companion Workbook (CCW) p. 249, 251 due by class time- scan and upload to Canvas.
9/15		Rouse, Ch. 4, continued	
9/20	Spinal cord, brainstem, CN, cerebellum	Rouse, Ch. 5	CCW p. 269, 271, 272 due
9/22		Rouse, Ch. 5 continued	
9/27	CN presentations/finish Ch. 5	Rouse, Ch. 5, continued	Cranial nerve presentations due, present in class
9/29	Diencephalon, basal ganglia, brain ventricles	Rouse, Ch. 6	CCW p. 259, 263 due
10/4	Cerebrum: A survey	Rouse, Ch. 7	Exam #2 in Testing Lab; Ch 4-6
10/6		Rouse, Ch. 7 continued	CCW p. 255, 279 due
10/11	Cerebrum: Cerebral function	Rouse, Ch. 8	
10/13	No class due to ArkSHA	Rouse, Ch. 8 continued	Circle of Willis model due; turn in to Mrs. Vendetti
10/18	Consciousness disorders	Rouse, Ch. 9	Exam #3 in Testing Lab; Ch 7-8
10/20		Rouse, Ch. 9, continued	CCW p. 306-307 due
10/25	Hearing and balance	Rouse, Ch. 10	Article summary #1 due in Canvas
10/27		Rouse, Ch. 10, continued	
11/01	Neurology of speech	Rouse, Ch. 11	
11/03		Rouse, Ch. 11 continued	Media project due in Canvas: BOOK
11/08	Neurology of language	Rouse, Ch. 12	
11/10		Rouse, Ch. 12 continued	Article summary #2 due in Canvas
11/15	Neurology of swallowing	Rouse, Ch. 13	Exam #4 in Testing Lab; Ch 9-12
11/17	No class due to ASHA - see Echo lecture	Rouse, Ch. 13, continued	Media project due in Canvas: MOVIE
11/29	Neurology of cognition	Rouse, Ch. 14	
12/1		Rouse, Ch. 14, continued	
12/6	Neurology of emotion	Rouse, Ch. 15	Exam 5 - Ch 13-15 in Testing Lab
12/8	Final exam review		CCW p. 280-285 and 288-292 due
			FINAL EXAM